

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Tatsuya IGARASHI et al.

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For: **ORGANIC ELECTROLUMINESCENT
DEVICE**

Examiner: D. L. Garrett

DECLARATION UNDER 37 C.F.R. § 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Madam:

I, Toshihiro Ise, declare and say as follows:

I am named as a co-inventor of the above-identified application.

The I_p of the hole injection/transport compound (eV) (labeled in the attached Table as " I_p of H") and the E_a of the electron injection/transport compound (eV) (labeled in the attached Table as " E_a of E") are additionally described in the Table of the previously submitted test data. Furthermore, "O" is provided under "condition for T1" in the attached Table when the limitation "the electron injection/transport compound, the hole injection/transport compound, and the green or blue phosphorescent compound each has a T_1 value of 62 kcal/mole or more" is met, and "x" is provided when the limitation is not met.

As shown in the attached Table, it is extremely difficult to meet both of the conditions for I_p and E_a and the condition for T_1 . In fact, only the inventive examples and not the comparative examples meet all of the conditions.

The undersigned declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S. Code 1001 and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

By: Toshihiro Ise
Dr. Toshihiro Ise

Date: Aug. 11, 2009

Additional Example 1	External quantum efficiency	Operation durability (500cd/m ²)	log of "E"	Condition for T1
Additional Comparative Example 1	0.80%	1500h	5.9	○
Additional Comparative Example 2	0.10%	45h	5.7	×
Additional Comparative Example 3	No light emission		5.7	×
Additional Comparative Example 4	0.10%	38h	5.6	×
Additional Comparative Example 5	No light emission		5.6	×
Additional Comparative Example 6	0.20%	25h	5.6	×
Additional Comparative Example 7	No light emission		5.6	×
Additional Comparative Example 8	No light emission		5.6	×
Additional Comparative Example 9	0.10%	31h	5.5	×
Additional Comparative Example 10	0.30%	40h	5.7	×
Additional Comparative Example 11	No light emission		5.6	×
Additional Comparative Example 12	0.10%	200h	5.8	×
Additional Comparative Example 13	No light emission		5.9	×
Additional Comparative Example 14	No light emission		5.9	×
Additional Comparative Example 15	0.30%	185h	5.9	×
Additional Comparative Example 16	0.40%	100h	5.8	×
Additional Comparative Example 17	0.30%	40h	5.8	×
Additional Comparative Example 18	0.20%	33h	5.8	×
Additional Comparative Example 19	No light emission		5.7	×
Additional Comparative Example 20	No light emission		4.7	×
Additional Comparative Example 21	No light emission		5.8	×
Additional Comparative Example 22	0.40%	86h	5.9	×
Additional Comparative Example 23	0.40%	80h	5.9	×
Additional Comparative Example 24	1.20%		5.5	×
Additional Comparative Example 25	No light emission		5.5	×
Additional Comparative Example 26	No light emission		5.4	×
Additional Comparative Example 27	No light emission		5.5	×
Additional Comparative Example 28	No light emission		6.2	×
Additional Comparative Example 29	No light emission		6.5	×
Additional Comparative Example 30	No light emission		5.6	×
Additional Comparative Example 31	0.10%	3h	5.5	×
Additional Comparative Example 32	0.50%	10h	5.4	×
Additional Comparative Example 33	No light emission		6.6	×
Additional Comparative Example 34	No light emission		6.7	×
Additional Comparative Example 35	No light emission		6.5	×
Additional Comparative Example 36	No light emission		6.3	×
Additional Comparative Example 37	1.30%	450h	5.9	×
Additional Comparative Example 38	No light emission		5.9	×
Additional Comparative Example 39	No light emission		5.9	×
Additional Comparative Example 40	No light emission		6.3	×
Additional Comparative Example 41	No light emission		6.6	×
Additional Comparative Example 42	No light emission		5.6	×
Additional Comparative Example 43	No light emission		5.6	×
Additional Comparative Example 44	0.10%	20h	5.7	×
Additional Comparative Example 45	No light emission		5.7	×
Additional Comparative Example 46	No light emission		5.7	×
Additional Comparative Example 47	No light emission		5.9	×
Additional Comparative Example 48	No light emission		5.9	×
Additional Comparative Example 49	No light emission		5.9	×
Additional Comparative Example 50	No light emission		5.7	×
Additional Comparative Example 51	0.90%	66h	5.9	×
Additional Comparative Example 52	6.00%	700h	5.9	×
Additional Comparative Example 53	No light emission		5.9	×
Additional Comparative Example 54	No light emission		5.9	×

Additional Example 2	External quantum efficiency	Operation durability at 500cd/m ²	Is of "H"	Operation durability for 11
Additional Comparative Example 55	7.00%	2800h	5.9	2.9
Additional Comparative Example 56	0.10%	51h	5.7	2.9
Additional Comparative Example 57	No light emission		5.7	2.9
Additional Comparative Example 58	0.10%	41h	5.6	2.9
Additional Comparative Example 59	No light emission		5.6	2.9
Additional Comparative Example 60	0.20%	26h	5.6	2.9
Additional Comparative Example 61	No light emission		5.6	2.9
Additional Comparative Example 62	No light emission		5.6	2.9
Additional Comparative Example 63	0.10%	31h	5.5	2.9
Additional Comparative Example 64	0.10%	42h	6.7	2.9
Additional Comparative Example 65	No light emission		5.6	2.9
Additional Comparative Example 66	No light emission		5.6	2.9
Additional Comparative Example 67	0.10%	190h	5.9	2.6
Additional Comparative Example 68	No light emission		5.9	2.6
Additional Comparative Example 69	No light emission		5.9	2.5
Additional Comparative Example 70	0.30%	100h	5.9	2.3
Additional Comparative Example 71	0.60%	112h	5.8	2.9
Additional Comparative Example 72	0.30%	45h	5.8	2.8
Additional Comparative Example 73	0.20%	30h	5.8	2.9
Additional Comparative Example 74	No light emission		5.7	2.9
Additional Comparative Example 75	No light emission		5.7	2.9
Additional Comparative Example 76	No light emission		5.8	2.9
Additional Comparative Example 77	0.40%	75h	5.9	2.9
Additional Comparative Example 78	0.40%	86h	5.9	2.9
Additional Comparative Example 79	1.20%	45h	5.6	2.9
Additional Comparative Example 80	1.20%	70h	6.5	2.9
Additional Comparative Example 81	No light emission		5.4	2.9
Additional Comparative Example 82	No light emission		5.5	2.9
Additional Comparative Example 83	No light emission		5.5	2.8
Additional Comparative Example 84	No light emission		5.5	2.9
Additional Comparative Example 85	No light emission		5.6	2.9
Additional Comparative Example 86	0.10%	3h	5.5	2.9
Additional Comparative Example 87	0.50%	10h	5.4	2.9
Additional Comparative Example 88	No light emission		5.5	2.9
Additional Comparative Example 89	No light emission		6.7	2.9
Additional Comparative Example 90	No light emission		6.5	2.9
Additional Comparative Example 91	No light emission		6.3	2.9
Additional Comparative Example 92	1.30%	450h	5.9	3.2
Additional Comparative Example 93	No light emission		5.9	3.0
Additional Comparative Example 94	No light emission		5.9	2.9
Additional Comparative Example 95	No light emission		6.3	3.2
Additional Comparative Example 96	No light emission		6.5	3.2
Additional Comparative Example 97	No light emission		6.6	3.2
Additional Comparative Example 98	No light emission		5.6	3.0
Additional Comparative Example 99	No light emission		5.6	2.9
Additional Comparative Example 100	0.10%	30h	5.7	3.2
Additional Comparative Example 101	No light emission		5.7	3.0
Additional Comparative Example 102	No light emission		5.7	2.9
Additional Comparative Example 103	No light emission		5.9	2.7
Additional Comparative Example 104	No light emission		5.9	2.8
Additional Comparative Example 105	No light emission		8.7	2.7
Additional Comparative Example 106	0.90%	70h	6.8	2.8
Additional Comparative Example 107	6.00%	850h	5.9	2.8
Additional Comparative Example 108	No light emission		5.9	2.8
Additional Comparative Example 109	No light emission		5.9	2.7